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BEFORE THE
FEDERAL COMMUNICATIONS COMMISSION
WASHINGTON, D.C. 20554

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APR 2 0 1998

FEDERAL COMMUNICATIONS COMMISSION
OFFICE OF THE SECRETARY

In the Matter of

Advanced Television Systems and Their Impact Upon the Existing Television Broadcast Service	))))	MM Docket No. 87-268

TO: The Commission

PETITION FOR RECONSIDERATION

South Central Communications Corporation ("SCCC"), SWMM/Knoxville Corporation ("SWMM") and Channel 26, Ltd. ("Channel 26"),[1] hereby Petition the Commission to reconsider, in part, its Memorandum Opinion and Order on Reconsideration of the Sixth Report and Order (the "Order") released in this proceeding on February 23, 1998.[2] In support thereof, the following is shown.

PRELIMINARY STATEMENT

This petition addresses principally the Order's reaffirmation of the initial allotment of Channel 26 to Knoxville, TN, as the DTV assignment for Station WATE-TV, Channel 6, at Knoxville, and the resultant preclusion of a new, additional and near-term service to the Knoxville

[1]The moving parties will sometimes hereinafter be referred to as "the Petitioners" or "the Applicants."

[2]FCC 98-24; the Order was published in the Federal Register on March 20, 1998.

community. As shown below, such action was neither necessary nor reasonable and ought be modified upon reconsideration so that such new service can in fact be implemented for the Knoxville community without, as here, any offsetting detriment to any existing television operation or to the subsequent initiation of DTV service at Knoxville.[3]

To be noted at the outset is the fact that this matter derives from novel circumstances unique to the Knoxville community and its television structure. Thus, in 1988, SCCC, a petitioner here, surrendered its long-held license for Channel 26 -- the channel critically involved here -- in the interest of bringing to Knoxville a third, then-competitive VHF network service on the then recently allocated Channel 8.[4] The activation of Channel 8 was then believed by all interests, including the Commission, to be the only available means of providing a viable, competitive network service to the Knoxville community over the near-term. There then obtained the presumption that Channel 26 would in fact be reactivated in due course to the end that Knoxville would be afforded the full complement of active television services -- network and others -- contemplated by the television table of allocations. Channel 26 has been allocated to Knoxville from the inception of the table, thus reflecting the Commission's proper presumption that there was a need in the community for the total number of transmission services allocated to Knoxville.

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[3]The petitioners here are all long-term applicants for a new construction permit on Channel 26 at Knoxville. As discussed further below they are also parties to a pending settlement agreement which would provide for a new, near-term broadcast operation on Channel 26.

[4]That result was rooted in the so-called "VHF Drop-In" proceedings initiated in 1977. VHF TV Top 100 Markets, 63 FCC 2d 840.

The expectation of renewed service on Channel 26 was reflected by the filings in 1989 of applications for that channel by two of the petitioners here, SWMM and Channel 26.[5] SCCC filed its application for that channel in 1996 (BPCT-960920LJ).[6] Regrettably, all such applications merely languished by reason of the so-called "DTV Freeze" imposed in 1987 and as to which all of the Applicants had sought a waiver.

Upon the unanticipated allotment of Channel 26 as the proposed DTV assignment for Station WATE-TV, Knoxville, pursuant to the Sixth Report and Order[7], SCCC sought reconsideration of that action through its Petition for Reconsideration filed on June 13, 1997. In here relevant part, the petition noted that the allotment of DTV Channel 26 for WATE-TV would preclude a grant of the long-pending applications for a new and additional television operation on that channel and proposed the alternative allotment of Channel 5 as the WATE-TV DTV assignment so as to free up Channel 26 for such an operation at Knoxville.[8]

During the pendency of SCCC's Petition for Reconsideration, all of the applicants for Channel 26 (and the Petitioners here) filed with the Commission on January 28, 1998, a universal settlement agreement whereby the Applicants SWMM and Channel 26 would, for stated consideration, dismiss their applications upon the mutually proposed grant of SCCC's application

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[5]BPCT-890405KF and BPCT-890913KG, respectively.

[6]SCCC had earlier been precluded from such a filing by reason of its minority interest in the new Channel 8 operation at Knoxville, such interest having been divested in the interim.

[7]MM Docket No. 87-268, 12 FCC Rcd 14588 (1997).

[8]SCCC also then committed to initiate DTV service on Channel 26 within 18 months of a grant of its application (Petition for Reconsideration, Note 4 and Order, ¶ 625).

for Channel 26. That agreement, and the attendant request for Commission approval thereof, remain pending.

The subsequently issued Order rejected SCCC's proposal to allocate Channel 5 as the DTV assignment for WATE-TV (Order, ¶ 625-627). In so doing, the Order recounted, inter alia, the objection of WATE-TV "... that use of DTV Channel 5 would place WATE at a distinct competitive disadvantage since it would be the only Knoxville station with both its NTSC and DTV channels potentially outside the core area." (Order, ¶ 626). Inexplicably, however, the Order failed to acknowledge, much less decisionally account for, the fact that in the very same reconsideration proceeding the Commission itself had expanded the "core area" so as to include Channel 5 (Order, ¶ 42).

Further, the Order simply eschews SCCC's application and, by implication, those of SWMM and Channel 26, as non-entities worthy of no consideration by reason of the fact that -- notwithstanding their long-term pendency -- they had not been "accepted for filing" (Id.).

As treated further below, it is respectfully submitted that the Commission's disposition of the Petitioners' timely filed and still "pending" applications, as well as its particular disposition of SCCC's Petition for Reconsideration, constitute error which ought be corrected upon reconsideration. Assuming, arguendo, that the Commission may persist in its dispositions as recited in the Order, it should nonetheless -- in furtherance of the public interest-at-large and the particular interest of the Knoxville community -- expeditiously make provision for the allotment of an additional Channel to Knoxville and further provide for its assignment so as to allow for the initiation of a new and additional television transmission service to that community over the near-term consistent with the orderly implementation of DTV service at Knoxville.

Further to the above proposed alternative resolution, it has been determined upon analysis of the DTV table of allotments as dictated by the Order that Channel 18 may be utilized for a DTV operation at Knoxville.[9] Given that circumstance, the Commission should provide upon reconsideration that Channel 18 be utilized as the DTV assignment for WATE-TV in lieu of Channel 26 and that the latter channel remain available for prompt grant pursuant to the pending SCCC application and related settlement agreement. Alternatively, but less desirably, the Commission should provide for the allotment of DTV Channel 18 to Knoxville with related provision that the pending applications for Channel 26 be amended to specify that channel and that, pursuant to the pending settlement agreement, the application of SCCC be granted so as to authorize a DTV operation on Channel 18 at Knoxville.

It is reasonably apparent from just the foregoing that there are readily available to the Commission multiple means by which it may provide both for the ordained development of DTV at Knoxville and, as importantly, the initiation of a new television transmission service to that community consistent with that contemplated by the long-established table of allotments.

EXPOSITION

The Order errs in multiple respects, i.e. (1) It fails to protect the Petitioners' long-pending applications for Channel 26 notwithstanding the Commission's oft-repeated commitments to do so; (2) It accords undue and misplaced reliance to WATE-TV's "non-core" objection to an alternative DTV assignment, and (3) it fails adequately to account for the manifest public interest in providing for a new and additional television transmission service to Knoxville. In part, the factual grounds

[9]The technical showing accompanying this petition demonstrates the technical feasibility of a Channel 18 operation generally and that it will largely replicate that now achieved by WATE-TV on Channel 6.

for such assignments of error have been set out above. There follows a further demonstration thereof.

The Failure to Protect the Petitioners' Applications

In its Sixth Report and Order in this proceeding, 12 FCC Rcd 14588 (1997), the Commission noted its earlier statement in the Sixth Further Notice of Proposed Rulemaking that it would not accept additional applications for new NTSC stations that were filed after September 20, 1996.[10] The Commission also noted, however, that it would continue to process applications already on file and those that were filed on or before September 20, 1996, because the Commission did not believe that these applications would have a "significant negative impact" on the development of the DTV Table of Allotments. Sixth Report and Order, 12 FCC Rcd at 14635, ¶104.

In the Order here, the Commission repeatedly confirmed that it fully intended to protect pending NTSC applications filed by September 20, 1996. *See, e.g.*, Order at ¶¶571, 575, 608, 627. Nevertheless, the DTV Table set forth in the Order fails to protect the Petitioners' pending applications for the Channel 26 facility at Knoxville. Those applications were filed on or before the September 20, 1996, deadline, and long before the Commission issued its Sixth Report and Order on April 21, 1997. In its Sixth Further Notice, the Commission noted that there were more than 300 applications then on file which, if processed, would result in more than 100 new NTSC stations. Sixth Further Notice, 11 FCC Rcd at 10992, ¶60. The Commission further stated:

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[10] 11 FCC Rcd 10968, 10992 ¶60 (1996).

> As we process the applications on file now and those that are filed before the end of this filing opportunity, we will continue our current policy of considering requests for waiver of our 1987 freeze *Order* on a case-by-case basis.

Id. (emphasis added). The Commission provided no notice, however, that, with respect to these pending applications for new television stations, it had no intention of acting on requests for waiver of the 1987 Freeze Order, but, instead, would merely treat applications containing such a waiver request as if they had never been filed. The Commission also failed to provide any notice that an application would be considered to be "pending" only if it had been formally "accepted for filing," or if the application did not include a request for waiver of the 1987 Freeze Order. Indeed, rather than "considering requests for waiver of the 1987 Freeze Order on a case-by-case basis," as the Commission stated it would in its Sixth Further Notice (and as the Commission claimed to have done in its Sixth Report and Order), the Commission simply disregarded all applications that contained a request for waiver of the 1987 Freeze Order in establishing the DTV Table, and treated such applications as if they had never been filed.[11] Therefore, for this reason alone, the DTV Table contained in the Sixth Report and Order should be revised to accommodate Petitioners' long-pending applications.

The Reliance Upon WATE-TV's "Non-Core" Objection

The essence of this circumstance is set out at page 4, supra. As there noted, it is at best inexplicable that the Commission credited WATE-TV's argument that its use of DTV Channel 5

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[11] The Commission repeatedly stated throughout its Order that applications containing such waivers had not been accepted, no action had been taken on the waiver request, and that the subject channel was used for DTV purposes. See, e.g., Order at ¶¶608, 627; *see also* ¶575.

would place both its NTSC and DTV assignments out of the "core area" while at the same time the Commission expanded the core to include both channels. It is reasonably clear that such myopia negatively affected the Commission's consideration and disposition of SCCC's alternative allotment proposal. In the event, however, that the Commission acts now so as otherwise to provide for a new and additional television transmission service at Knoxville, this issue need not be reached.

Public Interest Considerations

The demonstrably unnecessary usurpation of already allocated Channel 26 for DTV use by WATE-TV plainly serves to preclude the initiation of a new and additional television transmission service at Knoxville. It is axiomatic that such a result ought be avoided where, as here, that can be achieved consistent with other relevant interests. None of the alternative allotment/assignment actions proposed herein will have a materially adverse impact upon any private party or the orderly and timely implementation of DTV service to the Knoxville community. On the other hand, any of such alternatives will conduce to the public interest, and serve the goals of Section 307(b) of the Communications Act by expanding "the local means of expression." The Commission has properly responded to that mandate in a recent decision turning on material facts virtually identical to those presented here. Thus, in the matter of Blanco, Texas, 13 FCC Rcd 3259, released February 17,1998, the Commission preserved an NTSC channel which had previously been deleted due to DTV considerations, observing that such action was compelled by "... both the public interest and basic fairness..." the the community involved. To the extent that such remedial action may serve as well to further the development of one or another of the so-called "emerging networks," it is additionally commended.

CONCLUSION

For the reasons shown hereinabove, the Commission should grant the here requested reconsideration and, pursuant thereto, reassess the assignment of Channel 5 to WATE-TV for its DTV operation given the now recognition that that Channel is within the newly expanded core area or, alternatively, allot Channel 18 to Knoxville as WATE-TV's DTV assignment, or, as a final alternative, allot Channel 18 to Knoxville for the initiation of a new and separate DTV service with provision that the Petitioners' applications for Channel 26 be amended to specify Channel 18 and that SCCC's application be granted pursuant to the pending settlement agreement.

Respectfully Submitted

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Note: The original of this document is in transit but was not received in time for submission with the foregoing Petition for Reconsideration (Federal Express advises that the delay is due to adverse weather and related considerations). The original will be submitted promptly upon receipt by Washington counsel.

Exhibit 1: Technical Discussion in Support of Request for Modification of DTV Table of Allotments With Regard to Channel 26 DTV, Knoxville TN.

This analysis is presented in support of a modification request with regard to a change in the Digital Table of Allotments as presented in the ***Memorandum Opinion and Order on Reconsideration of the Sixth Report and Order (FCC 98-24, MM Docket #87-268)*** *As contracted by South Central Communications Corp., Third Coast Broadcasting has performed a computerized analysis to present an alternative channel for the DTV allotment in the Knoxville Tennessee area. Through this analysis, channel 18 was found as an alternative to channel 26 and the following discusses the methods and results of this analysis.*

Methodology:

In the channel analysis, the table of allotments from the MO&O was input into a slightly modified version of the FCC "Anneal" program, the FORTRAN program which the FCC used to allocate the digital channels in DTV proceedings and which resulted in the final DTV table of allotments. The full United States input file was used in order to avoid any ripple effect caused by far distant stations on the calculation ability of the program. This Anneal program was modified with the addition of an "nlpok" logical function, which, when presented with proper data, forces Anneal to "dodge" a selected channel and to mathematically choose an alternative channel, using the same criteria as the first channel. This nlpok algorithm has been submitted to the Commission and is a matter of public record. The only data input to nlpok was channel 26D, Knoxville TN and all other markets were left as indicated in the Table of Allotments. The Anneal program indicated channel 18 as its result.

Channel 18 was then input into the "flr" program in accordance with the criteria of FCC publication OET-69 (flr: FCC Longley-Rice program, as revised, March 16, 1998) to determine the actual interference percentages of the baseline channel 26 selection and then the channel 18 modification. In this analysis, only the channels which were affected by either of the channel 26 or channel 18 were used for the result. In running the flr program with channel 26 and then channel 18, any differences in population coverage or areas covered would be obvious. The output of the flr program run is submitted as Exhibit #2.

Results:

After running the flr program, the alternative channel 18 was found to change the coverage of the initially proposed channel 26 with a decrease of 2.9 percent of population and a decrease of 3.8 percent of coverage area. The other stations affected by this proposed channel change were as follows:

```
Analysis of: 15N TN KNOXVILLE
                                POPULATION     %     AREA (sq km)
   not affected by terrain losses    923885             19620.7
   lost to all IX (18)                 5278   0.57%       257.0
   lost to all IX (26)                 5106   0.55%       248.9
total (difference):                     172   0.02%  *      9.0

Analysis of: 17A TN KNOXVILLE
   HAAT  513.0 m, ATV ERP   92.1 kW
                                POPULATION           AREA (sq km)
   not affected by terrain losses    935329             20395.5
   lost to all IX (18)                55505   5.93%       1601.9
   lost to all IX (26)                 5567   0.59%        449.7
total (difference):                   49938   5.34%       1152.2
Analysis of: 18N GA CHATSWORTH
                                POPULATION           AREA (sq km)
   not affected by terrain losses   1510220             19277.8
   lost to all IX (18)               613414  40.86%       4559.9
   lost to all IX (26)               488977  32.38%       2467.1
total (difference):                  124437   8.48%       2092.8
Analysis of: 18N KY LEXINGTON
                                POPULATION           AREA (sq km)
   not affected by terrain losses    624727             12935.3
   lost to all IX (18)                 5155   0.825%       388.0
   lost to all IX (26)                 3692   0.591%       268.0
total (difference):                    1463   0.234%  *    120.0
Analysis of: 19N TN KINGSPORT
                                POPULATION           AREA (sq km)
   not affected by terrain losses    711314             18697.4
   lost to all IX (18)                 6943   0.976%       302.4
   lost to all IX (26)                 6731   0.946%       290.3
total (difference):                     212   0.030%  *     12.1
Analysis of: 27A TN KINGSPORT
   HAAT  707.0 m, ATV ERP   54.3 kW
                                POPULATION           AREA (sq km)
   not affected by terrain losses    731431             19532.1
   lost to all IX (18)                38771   5.30%       1286.3
   lost to all IX (26)                38914   5.32%       1290.3
total (difference):                    -143  -0.02%  *     -4.0
Analysis of: 25A NC ASHEVILLE
   HAAT  816.0 m, ATV ERP  101.0 kW
                                POPULATION           AREA (sq km)
   not affected by terrain losses   1506452             23913.9
   lost to all IX (18)                39369   2.61%        956.9
   lost to all IX (26)                56595   3.76%       1211.2
total (difference):                  -17226  -1.15%  * - 254.3

Note: * indicates compliance with FCC de-minimus standard for interference.
```

According to the preceding analysis, the proposal complies with the FCC's deminimus criteria for all stations except the original channel 26, Knoxville TN, channel 18, Chatsworth GA and channel 17 Knoxville TN. If this proposed channel were operated independently from channel 6 at a reduced power level from the 1 Mw proposed, it is probable that the interference level would be reduced on both of channel 18 and channel 17. If used at the 1 Mw power level, this channel selection would result in an increased interference level for these two stations. However, in proposing a reduced power level of 100 Kw ERP, although the coverage replication of the WATE channel 6 station is below the initial 96.1 percent, this channel meets all de-minimus requirements for interference protection of other stations.

The proposed reduced power facilities are as follows:

Analysis of: 6N TN KNOXVILLE (unchanged)

	POPULATION	AREA (sq km)
within Noise Limited Contour	1421492	42357.1
not affected by terrain losses	1246834	35541.0
lost to NTSC IX	66112	2519.4
lost to additional IX by ATV	0	0.0
lost to all IX	66112	2519.4

Analysis of: 18A TN KNOXVILLE
HAAT 454.0 m, ATV ERP 100.0 kW

	POPULATION	AREA (sq km)
within Noise Limited Contour	1421492	42357.1
not affected by terrain losses	1141078	29828.1
lost to NTSC IX	63905	2439.2
lost to additional IX by ATV	2722	144.4
lost to ATV IX only	11482	549.6
lost to all IX	66627	2583.6
percent match ATV/NTSC	88.5	80.1

The interference with regard to the two channels previously outside of the deminimus standards:

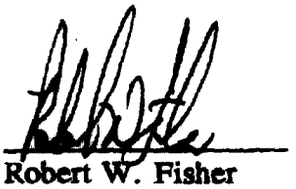
Analysis of: 17A TN KNOXVILLE
HAAT 513.0 m, ATV ERP 92.1 kW

	POPULATION			AREA (sq km)
not affected by terrain losses	935329			20395.5
lost to all IX (18 @ 100Kw)	13565	1.45%		706.6
lost to all IX (26)	5567	0.59%		449.7
total (difference):	7998	0.86%	*	1152.2

Analysis of: 18N GA CHATSWORTH

	POPULATION			AREA (sq km)
not affected by terrain losses	1510220			19277.8
lost to all IX (18 @ 100Kw)	514911	34.09%		3255.9
lost to all IX (26)	488977	32.38%		2467.1
total (difference):	25934	1.71%	*	2092.8

In both of these cases, the additional interference to the coverage of these stations is below 2% and is minimal, thereby indicating that a DTV allotment is possible at this location for this channel, at reduced maximum power. At this power level, very minimal interference is predicted to occur, and an additional 1,074,451 people could be served with the use of channel 18 in the Knoxville, Tennessee market.



Robert W. Fisher
Communications Consultant

Exhibit #2: Flr Analysis

Channel 18:

```
#  Comments start with the pound sign which may be at the beginning
#  of the line or inside it.  Everything between the pound sign and
#  the next newline is ignored.

#  Empty lines are also ignored.

#  Curly brackets surround name of highest category of input data.
#  Square brackets denote subcategories, and parentheses denote a
#  third level of subcategory.

#  Data lines, like those specifying TV station vertical patterns
#  below, are read as vectors.  The components are separated by white
#  space and character strings are quoted.  The leading component may
#  be the vector name enclosed in parentheses.
#
#  The position of data items is critical because the program uses
#  format statements to read this file.  The program writes out what it
#  reads, so if you have a problem compare input with output to make
#  sure the data read by the program is correct.
#

{Macros}

[TV Engineering Data Base]
(TVDB) "tv_main.dbs"

[Directional Antenna Data Base]
(DADB) "../data/dadb/dadb.lis"

[HAAT Data Base]
(HTDB) "haat_db.dbs"

[Propagation curve data point files]
#
#  The order of the following files needs to be
#  preserved F50/50, F50/10, F50/90 with file
#  low vhf, high vhf uhf for each set of curves
#
(PCDB)
../data/r6602/f55lv.dat
../data/r6602/f55hv.dat
../data/r6602/f55u.dat
../data/r6602/f51lv.dat
../data/r6602/f51hv.dat
../data/r6602/f51u.dat
../data/r6602/f59lv.dat
../data/r6602/f59hv.dat
../data/r6602/f59u.dat

[Population data files path]
(POPDB) "../data/population"

[List of stations to be analyzed for coverage and IX]
#
#  The following file contains the list of data base
#  stations to analyze
#
```

```
(Analysis List File) "stations.dat"

(Program Options)
#  For Replicate = no, DTV facilities will be determined from file
#  tv_main.dbs unless the ERP given in that file is -1.0.  In the
#  latter case, the "no" is overridden.
#
(Replicate) "no"

(Propagation Curves) #Define which FCC curves are used in the analysis

#  Define curves to use for service prediction and interference.
#  Define for both NTSC and ATV.
#  Values are % time (F50/50, F50/10 F50/90).
#
# NTSC Curves
# Service  Interference
#
    50.0       10.0
#
# ATV Curves
# Service  Interference
#
    90.0       10.0

(Longley-Rice Percentiles) #Define location/time/confidence % for L-R comp.

#  Need to define % to use for service prediction and interference
#  Need to define for both NTSC and ATV
#
# NTSC Computations
#
#         Service                        Interference
#
#   Time  Location  Confidence      Time  Location  Confidence
#
    50.0    50.0        50.0        10.0    50.0        50.0

# ATV Computations
#
#         Service                        Interference
#
#   Time  Location  Confidence      Time  Location  Confidence
#
    90.0    50.0        50.0        10.0    50.0        50.0

(Receive Antenna Use)
#  State if receive antenna patterns are to be considered
#
# Apply to NTSC      Apply to ATV
#
       "yes"              "yes"

(Apply Xmit Vertical Pattern)
#
#  State if vertical antenna patterns are to be considered
#
# Apply to NTSC      Apply to ATV
#
       "yes"              "yes"

(Apply Xmit Horizontal Pattern)
```

```
#
#  State if horizontal antenna patterns are to be considered.  If
#  Replicate was set to "no" above then the switch for ATV here is
#  ignored.

#
# Apply to NTSC      Apply to ATV
#
       "yes"              "yes"

(Analysis Radials)
#
#  Noise limited contours are determined by calculating the distance to
#  the contour on a number of evenly spaced radials.  Define the number
#  to use here.  The number must be between 36 and 360.
#
#  Put number in columns 8-10
#
# Number of radials
#
        72

(Channel Relationships Considered)
#
#  Define what channel relationships to consider when analyzing
#  NTSC to NTSC interference.
#
#  The blank line at the end is necessary to terminate the list.
#
# Channel Offset     yes/no
# ---------------    ------
#
(N-to-N)
    +0                "yes"
    +1                "yes"
    +2                "yes"
    +3                "yes"
    +4                "yes"
    +5                "no"
    +7                "yes"
    +8                "yes"
    -1                "yes"
    -2                "yes"
    -3                "yes"
    -4                "no"
    -5                "no"
    -7                "yes"
    -8                "yes"
   +14                "yes"
   +15                "yes"

#
#  Define what channel relationships to consider when analyzing
#  NTSC to ATV interference.
#
#  The blank line at the end is necessary to terminate the list.
#
# Channel Offset     yes/no
# ---------------    ------
#
(N-to-A)
    +0                "yes"
```

```
    +1                  "yes"
    +2                  "no"
    +3                  "no"
    +4                  "no"
    +5                  "no"
    +7                  "no"
    +8                  "no"
    -1                  "yes"
    -2                  "no"
    -3                  "no"
    -4                  "no"
    -5                  "no"
    -7                  "no"
    -8                  "no"
   +14                  "no"
   +15                  "no"

#
#  Define what channel relationships to consider when analyzing
#  ATV to NTSC interference.
#
#  The blank line at the end is necessary to terminate the list.
#
# Channel Offset     yes/no
# ---------------    ------
#
(A-to-N)
    +0                  "yes"
    +1                  "yes"
    +2                  "yes"
    +3                  "yes"
    +4                  "yes"
    +5                  "no"
    +7                  "yes"
    +8                  "yes"
    -1                  "yes"
    -2                  "yes"
    -3                  "yes"
    -4                  "yes"
    -5                  "no"
    -7                  "yes"
    -8                  "yes"
   +14                  "yes"
   +15                  "yes"

#
#  Define what channel relationships to consider when analyzing
#  ATV to ATV interference.
#
#  The blank line at the end is necessary to terminate the list.
#
# Channel Offset     yes/no
# ---------------    ------
#
(A-to-A)
    +0                  "yes"
    +1                  "yes"
    +2                  "no"
    +3                  "no"
    +4                  "no"
    +5                  "no"
    +7                  "no"
```

```
    +8                  "no"
    -1                  "yes"
    -2                  "no"
    -3                  "no"
    -4                  "no"
    -5                  "no"
    -7                  "no"
    -8                  "no"
    14                  "no"
    15                  "no"
#
#   Indicate how problem area is to be defined.  It can be defined as
#   the NLC of a station in in the data base or by a rectangular area
#   with geographical coordinate boundaries.  When the program is run in
#   the pairwise mode (compile-time option) the problem area for each
#   pair is automatically set to the NLC of the NTSC station, bypassing
#   the choice made here.
#
#   Define the problem area below by using the words Station or Rectangle
#   in quotes.  The case is necessary.
#
(Problem Area Definition) "Station"

(Problem Area Station)
#
#   Station is defined by city, state, channel, ATV or NTSC
#   Place each in quotes - limit on city name is 20 characters
#
#        city              state     channel      ATV/NTSC
#
       "Denver"           "CO"       "32"          "ntsc"

(Problem Area Rectangle)
#   SE Latitude   SE Longitude     NW Latitude   NW Longitude
    "39-48-19"    "72-49-54"       "41-36-38"    "75-12-29"

#
#   The following value is the size of the cells within the the problem
#   area grid.  The cells are square so only a single value is needed.
#   The value is in km and is the length of the cell side.
#

(Problem Area Cell Size)    2.000


{TV Station Parameters}

[Vertical Pattern]

(Type Vertical Pattern) "FCC"

#           Declination Angles in Degrees      Relative Gain
#           ------------------------------     -----------------
# Band      Tilt       Theta(1)    Theta(2)    Volts(1)  Volts(2)
#--------   --------   --------    --------    --------  --------
(Low VHF)    0.00        7.00        20.00       0.40      0.22
(High VHF)   0.00        3.00         6.00       0.40      0.22
(UHF)        0.50        2.50         5.00       0.40      0.16

(Type Vertical Pattern) "PSWP3"

#
```

# ANGLE	L_VHF_N	L_VHF_A	H_VHF_N	H_VHF_A	UHF_N	UHF_A
#						
0.75	1.000	1.000	1.000	1.000	1.000	1.000
1.50	1.000	1.000	0.950	0.970	0.740	0.880
2.00	0.990	0.990	0.860	0.940	0.520	0.690
2.50	0.980	0.980	0.730	0.890	0.330	0.460
3.00	0.970	0.970	0.600	0.820	0.220	0.260
3.50	0.950	0.950	0.470	0.730	0.170	0.235
4.00	0.930	0.930	0.370	0.650	0.150	0.210
5.00	0.880	0.880	0.370	0.470	0.130	0.200
6.00	0.820	0.820	0.370	0.330	0.110	0.150
7.00	0.740	0.740	0.370	0.280	0.110	0.150
8.00	0.637	0.637	0.310	0.280	0.110	0.150
9.00	0.570	0.570	0.220	0.280	0.110	0.150
10.00	0.480	0.480	0.170	0.250	0.110	0.150

(Pattern Selection) "PSWP3" #Set to FCC or PSWP3 to select pattern

[Horizontal Pattern]
Source File will always be same as TVDB.
Whether a horizontal pattern is used or not used is set in the Program
Options section above.
#
() #This is required so the input routine knows to go on the next section

[HAAT]
(Source File) "HTDB" #If TVDB use single value, if HTDB use computed values

(Number of radials used to determine HAAT) 8 #Only used with HTDB (MAX 360)

#	Minimum Height in Meters		
#	---	---	---
#	Low VHF	High VHF	UHF
(NTSC Minima)	33.0	33.0	33.0
(Prototype ATV)	305.0	305.0	365.0

[ERP]
(Source File) "TVDB"

#	ERP limits in Kilowatts		
#	---	---	---
#	Low VHF	High VHF	UHF
(NTSC Minima)	0.1	0.1	0.1
(ATV Minima)	1.0	3.2	50.0
(Prototype ATV)	45.0	160.0	1000.0
(ATV Maxima)	100.0	316.0	1000.0
(Vacant Allotments)	0.0	0.0	0.0

{Receiving Antenna}

[Patterns]

(Pattern Type) "CCIR"

#	Azimuth Angles in Degrees				Relative Gain, dB			
#	---	---	---	---	---	---	---	---
# Band	Phi(1)	Phi(2)	Phi(3)	Phi(4)	Gain(1)	Gain(2)	Gain(3)	Gain(4)
#-------	------	------	------	------	-------	-------	-------	-------
(Low VHF)	0.0	50.0	70.0	90.0	0.0	0.0	-6.0	-6.0
(High VHF)	0.0	25.0	60.0	90.0	0.0	0.0	-12.0	-12.0
(UHF)	0.0	20.0	60.0	90.0	0.0	0.0	-16.0	-16.0

(Pattern Type) "PSWP3"

```
#         Front-to-back Ratios, dB
#         ------------------------
#         Low VHF   High VHF    UHF
#         -------   --------   -----
(NTSC)        6.0      6.0      6.0
(ATV)        10.0     12.0     14.0
(Exponent)    4.0

#         Receive Antenna Gain, dB
#          ------------------------
#         Low VHF   High VHF    UHF
#         -------   --------   -----
(NTSC)        0.0      0.0      0.0
(ATV)         4.0      6.0     10.0

[Height]
(Rooftop)    10.0 (Rooftop)    10.0  #Meters above ground

[Pattern to be Used]

(Pattern Selection) "PSWP3" #Set to PSWP3 or CCIR to select pattern

{Noise Threshold} #Field strength in dB relative to 1 microvolt/meter

[NTSC]
(Low VHF)    47.00
(High VHF)   56.00
(UHF)        64.00

[ATV]
(Low VHF)    28.00
(High VHF)   36.00
(UHF)        41.00

{Desired Signal Levels} #dB relative to 1 microvolt/meter

[NTSC]
#            Low VHF   High VHF    UHF
#            -------   --------   -----
(Moderate)   68.00        71.00    74.000 #Grade A levels
(Strong)     74.00        77.00    80.000 #Principal City

[ATV]
#            Low VHF   High VHF    UHF
#            -------   --------   -----
(Moderate)   53.00        52.00    64.000 #Arbitrary values--further
(Strong)     58.00        58.00    70.000 #study required.

{D/U Ratios}  #Use -1000.0 dB for missing values.

[N-to-N]
#
#  Weak - Ratio for Weak Desired Level
#  Moderate - Ratio for Moderate Desired Level
#  Strong - Ratio for Strong Desired Level
#
#  Weak is for regular type computations.  Moderate and Strong are used
#  for special calculations.
#
#  It is important that the order below is preserved:
#  co-channel first, +1, +2, ..., +8, -1, -2, ..., -8, +14, +15.
#
```

```
# Offset       Weak     Moderate      Strong
# ------       ----     --------      ------
#
(Ratios)
     0         28.00       28.00       28.00
     1        -13.00      -13.00      -13.00
     2        -29.00      -29.00      -29.00
     3        -34.00      -34.00      -34.00
     4        -23.00      -23.00      -23.00
     5      -1000.00    -1000.00    -1000.00
     7        -33.00      -33.00      -33.00
     8        -41.00      -41.00      -41.00
    -1         -3.00       -3.00       -3.00
    -2        -26.00      -26.00      -26.00
    -3        -33.00      -33.00      -33.00
    -4      -1000.00    -1000.00    -1000.00
    -5      -1000.00    -1000.00    -1000.00
    -7        -30.00      -30.00      -30.00
    -8        -32.00      -32.00      -32.00
    14        -25.00      -25.00      -25.00
    15         -9.00       -9.00       -9.00

[A-to-N]
#
#  Weak - Ratio for Weak Desired Level
#  Moderate - Ratio for Moderate Desired Level
#  Strong - Ratio for Strong Desired Level
#
# Offset       Weak     Moderate      Strong
# ------       ----     --------      ------
#
(Ratios)
     0         34.00       34.00       34.00
     1        -17.00      -17.00      -17.00
     2        -28.00      -28.00      -28.00
     3        -34.00      -34.00      -34.00
     4        -25.00      -25.00      -25.00
     5      -1000.00    -1000.00    -1000.00
     7        -43.00      -43.00      -43.00
     8        -43.00      -43.00      -43.00
    -1        -14.00      -14.00      -14.00
    -2        -24.00      -24.00      -24.00
    -3        -30.00      -30.00      -30.00
    -4        -34.00      -34.00      -34.00
    -5      -1000.00    -1000.00    -1000.00
    -7        -35.00      -35.00      -35.00
    -8        -32.00      -32.00      -32.00
    14        -33.00      -33.00      -33.00
    15        -31.00      -31.00      -31.00

[N-to-A]
#
#  Weak - Ratio for Weak Desired Level
#  Moderate - Ratio for Moderate Desired Level
#  Strong - Ratio for Strong Desired Level
#
# Offset       Weak     Moderate      Strong
# ------       ----     --------      ------
#
(Ratios)
     0          2.00        2.00        2.00
```

1	-49.00	-49.00	-49.00
2	-59.86	-59.86	-59.86
3	-62.49	-62.49	-62.49
4	-58.00	-58.00	-58.00
5	-1000.00	-1000.00	-1000.00
7	-58.00	-58.00	-58.00
8	-58.00	-58.00	-58.00
-1	-48.00	-48.00	-48.00
-2	-62.45	-62.45	-62.45
-3	-61.79	-61.79	-61.79
-4	-58.00	-58.00	-58.00
-5	-1000.00	-1000.00	-1000.00
-7	-58.00	-58.00	-58.00
-8	-58.00	-58.00	-58.00
14	-58.00	-58.00	-58.00
15	-58.00	-58.00	-58.00

[A-to-A]
#
Weak - Ratio for Weak Desired Level
Moderate - Ratio for Moderate Desired Level
Strong - Ratio for Strong Desired Level
#
Adjacent channel values used for 6th R&O table were -43 dB for
n+1, -42 dB for n-1. The values below allow for degradation from
transmitter splatter. They are about 20 dB poorer.
#

# Offset	Weak	Moderate	Strong
#			
(Ratios)			
0	15.00	15.00	15.00
1	-21.00	-21.15	-21.15
2	-59.13	-59.13	-59.13
3	-61.53	-61.53	-61.53
4	-55.40	-55.40	-55.40
5	-1000.00	-1000.00	-1000.00
7	-63.00	-63.00	-63.00
8	-62.40	-62.40	-62.40
-1	-23.00	-23.09	-23.09
-2	-60.52	-60.52	-60.52
-3	-60.61	-60.61	-60.61
-4	-60.61	-60.61	-60.61
-5	-1000.00	-1000.00	-1000.00
-7	-63.00	-63.00	-63.00
-8	-62.80	-62.80	-62.80
14	-63.00	-63.00	-63.00
15	-62.90	-62.90	-62.90

{Maximum Analysis Distance}
#
Define by channel relationships the maximum distance from an
undesired station to an analysis point. Stations beyond these
distances will not be considered when analyzing NTSC to NTSC
interference.
#
The blank line at the end is necessary to terminate the list.
#

# Channel Offset	Max Distance - KM
#	

```
(N-to-N)
     0                  300.0
     1                  100.0
     2                   35.0
     3                   35.0
     4                   35.0
     7                  100.0
     8                   35.0
    -1                  100.0
    -2                   35.0
    -3                   35.0
    -7                  100.0
    -8                   35.0
    14                  100.0
    15                  125.0

#
#  Define by channel relationships the maximum distance from an
#  undesired station to an analysis point.  Stations beyond these
#  distances will not be considered when analyzing NTSC to ATV
#  interference.
#
#  The blank line at the end is necessary to terminate the list.
#
# Channel Offset     Max Distance - KM
# --------------     -----------------
#
(N-to-A)
     0                  300.0
     1                  100.0
    -1                  100.0

#
#  Define by channel relationships the maximum distance from an
#  undesired station to an analysis point.  Stations beyond these
#  distances will not be considered when analyzing ATV to NTSC
#  interference.
#
#  The blank line at the end is necessary to terminate the list.
#
#
# Channel Offset     Max Distance - KM
# --------------     -----------------
#
(A-to-N)
     0                  300.0
     1                  100.0
     2                   35.0
     3                   35.0
     4                   35.0
     7                   35.0
     8                   35.0
    -1                  100.0
    -2                   35.0
    -3                   35.0
    -4                   35.0
    -7                   35.0
    -8                   35.0
    14                   35.0
    15                   35.0

#
```

```
#  Define by channel relationships the maximum distance from an
#  undesired station to an analysis point.  Stations beyond these
#  distances will not be considered when analyzing ATV to ATV
#  interference.
#
#  The blank line at the end is necessary to terminate the list.
#
# Channel Offset      Max Distance - KM
# --------------      -----------------
#
(A-to-A)
     0                    300.0
     1                    100.0
    -1                    100.0

{END OF INPUT FILE}
Sideband masking assumed to improve first-adjacent A-to-A D/U ratios
                  D/U Ratios in dB
              ------------------------------------
  Channel   Intital      Including    with assumed
  Offset    Testing      Splatter     improvement
  ------    -------      ---------    -----------
   +1       -43.17        -21.15        -26.00
   -1       -41.98        -22.83        -28.00


Analysis of:  6N TN KNOXVILLE
                                    POPULATION   AREA (sq km)
   within Noise Limited Contour       1421492      42357.1
   not affected by terrain losses     1246834      35541.0
   lost to NTSC IX                      66112       2519.4
   lost to additional IX by ATV             0          0.0
   lost to all IX                       66112       2519.4
Analysis of: 18A TN KNOXVILLE
   HAAT  454.0 m, ATV ERP 1000.0 kW
                                    POPULATION   AREA (sq km)
   within Noise Limited Contour       1421492      42357.1
   not affected by terrain losses     1227718      34120.8
   lost to NTSC IX                      72282       3173.4
   lost to additional IX by ATV          1120         96.3
   lost to ATV IX only                  14069        714.1
   lost to all IX                       73402       3269.7
   percent match ATV/NTSC                93.2         88.4
Analysis of: 15N TN KNOXVILLE
                                    POPULATION   AREA (sq km)
   within Noise Limited Contour       1013800      24703.5
   not affected by terrain losses      923885      19620.7
   lost to NTSC IX                       1764        100.4
   lost to additional IX by ATV          3514        156.6
   lost to all IX                        5278        257.0
Analysis of: 17A TN KNOXVILLE
   HAAT  513.0 m, ATV ERP   92.1 kW
                                    POPULATION   AREA (sq km)
   within Noise Limited Contour       1013800      24703.5
   not affected by terrain losses      935329      20395.5
   lost to NTSC IX                       5471        437.6
   lost to additional IX by ATV         50034       1164.3
   lost to ATV IX only                  52339       1304.8
   lost to all IX                       55505       1601.9
   percent match ATV/NTSC                95.0         94.7
Analysis of: 17N NC LINVILLE
                                    POPULATION   AREA (sq km)
```